Chapter 6 CRT Questions

2. Explain the difference between method declaration and method body.

- A method's abilities are defined by the method declaration.
- Method body contains the code for the method.

3. What type of keyword is used to change the access level of a method?

- Public keyword is an access modifier

4. What is another word used for describing the access level of a method?

- Access level of a method is called visibility.

5. Explain the scope of each of the variables in the code below:

```
public class ScopeExample {
public static void main(String[] args) {
int var1;
for (int var2 = 0; var2 < 5; var2++) {
method1();
}
}
public static void method1() {
int var3;
for (int var4 = 0; var4 < 2; var4++) {
var3 += 1;
}
}
}
```

- As seen in the above code, the scope of the variables is determined by where it's declared.

6. Write a method declaration for each of the following descriptions:

a) A class method named getVowels that can be called by any other method, requires a String parameter, and returns an integer value.

```
public static int getVowels(String input) {
}
```

b) A class method named extractDigit that can be called by any other method, requires an integer parameter, and returns an integer value.

```
public static int extractDigit(int number) {
}
```

c) A class method named insertString that can be called by any other method, requires a String parameter and an integer parameter, and returns a String parameter.

```
public static String insertString(String str, int index) {

}
```

7.

a) How does the compiler distinguish one method from another?

- The compiler distinguishes one method from another through the use of method signatures.

b) Can two methods in the same class have the same name? Explain.

- Yes, two methods in the same class can have the same name. This is commonly called method overloading. Method overloading is when methods in the same class have the same name but different defining parameters.

8.

a) What is the return statement used for?

- A return statement is used to Exit a method, and also to send a value back to the caller.

b) How many values can a return statement send back to the calling statement?

- A return statement is only able to send back one value to the calling statement

c) How is the declaration of a method returning a value different from the declaration of a method that does not return a value?

- A method that returns a value has to specify a return type instead of void and it includes a return statement with a value of that type. A method that doesn't return a value uses void and doesn't require a return statement.

9.

Find and explain the error in the code below:

```
public class MethodCallExample {
public static void main(String[] args) {
int num;
doSomething();
num = doSomething();
}
public static int doSomething() {
return(5);
}
}
```

The error lies where the method doSomething is called without assigning its return value.